South Mountain Transportation Corridor Study

Citizens Advisory Team
Draft Technical Report Summary

Environmental Justice

What is Title VI and environmental justice?

The U.S. Environmental Protection Agency (EPA) defines environmental justice as the "fair treatment for people of all races, cultures and incomes, regarding the development of environmental laws, regulations and policies." Environmental justice principles and procedures are followed to improve all levels of transportation decision making. Environmental justice is based on Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color or national origin. The 1994 Presidential Executive Order 12898 on environmental justice broadened the scope to include minority and low-income populations.

Environmental justice focuses on three fundamental principles:

- avoidance, minimization or mitigation of disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations
- ensuring full and fair participation by all potentially affected communities in the transportation decision-making process
- preventing denial of, reduction in or significant delay in the receipt of benefits by minority and low-income populations

Why address these issues in the Environmental Impact Statement (EIS)?

Effective transportation decision making depends on understanding and properly addressing the unique needs of different socioeconomic groups. Properly implemented, environmental justice principles and procedures improve all levels of transportation decision making. Adherence to environmental justice will assist the study team to:

- make better transportation decisions that meet the needs of all people
- design transportation facilities that fit more harmoniously into communities
- provide opportunities for community input in the process, including identifying potential effects and mitigation measures in consultation with affected communities and improving accessibility to public meetings, official documents and notices to affected communities
- improve data collection, monitoring and analysis tools that assess the needs of, and analyze the potential impacts on minority and low-income populations
- avoid disproportionately high and adverse impacts on minority and low-income populations
- minimize and/or mitigate unavoidable impacts by identifying concerns early in the planning phase and provide offsetting initiatives and enhancement measures to benefit affected communities and neighborhoods

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Who is considered to be a minority for the purposes of Title VI and the Executive Order on environmental justice?

The Executive Order on environmental justice addresses four minority groups:

- Black (a person having origins in any of the black racial groups of Africa)
- Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin, regardless of race)
- Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands)
- American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition)

What is considered low-income for purposes of environmental justice?

- The Executive Order on environmental justice defines low-income as "a person whose household income is at or below the Department of Health and Human Services (HHS) poverty guidelines." These guidelines state that the poverty level for a family of four in 1999 was $17,029 and in 2008 is $21,200.

What other groups of people are considered?

The study team also considered impacts to concentrations of the elderly, disabled and female heads of households, as defined by the Executive Order on environmental justice.

What percentage of these populations is found in the Study Area?

The share of people age 65 and over in the Study Area (5 percent) is less than half of that comparable share for Maricopa County (12 percent). While the overall percentage of people with disabilities in the Study Area (20 percent) is higher than the share for Maricopa County (18 percent), no census block groups (the smallest geographical unit for which the Census Bureau publishes sample data) in the Study Area had concentrations above the environmental justice threshold established for this study. The percentage of households headed by women with children under the age of 18 living with them in the Study Area (9 percent) is higher than that of Maricopa County (7 percent).

What kinds of freeway construction impacts could occur?

The project could generate short-term impacts, such as noise, vibration, dust and temporary street restrictions and closures during construction.

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What if the project were not constructed?

- Urban growth is projected to continue in the Western Section, causing increased traffic volumes on surface streets as a result.
- Conversion of existing agricultural and undeveloped land to residential, commercial and industrial uses will continue.
- As developable land becomes scarce, land values will rise, resulting in higher costs for purchasing and renting homes.
- Access from the Study Area to regional employment centers will become more difficult because of traffic congestion.

Would the action alternatives cause any specific and/or unique impacts?

The share of all minority populations in the Study Area (67 percent) is nearly twice that of Maricopa County as a whole (34 percent). Scoping efforts identified two specific concentrations of minority populations: the Santa Maria community and Tolleson. Planning for the action alternatives purposefully avoided causing what would be direct impacts on these communities.

What could ADOT do to reduce or avoid impacts?

The project was determined to not cause disproportionately high and adverse effects on any minority or low-income populations so no environmental justice mitigation would be warranted.

Are the conclusions presented in this summary final?

Quantitative findings relative to impacts could change. Potential changes would be based on outcomes related to the following issues and will be presented to the public as part of publication of the Draft EIS, Final EIS and, if an action alternative were selected, in the final design process. The issues include:

- refinement in design features through the design process
- updated aerial photography as it relates to rapid growth in the Western Section of the Study Area
- ongoing communications with the City of Phoenix regarding measures to minimize harm to Phoenix South Mountain Park/Preserve
- ongoing communications with the Gila River Indian Community (GRIC) regarding granting permission to study action alternatives on GRIC land
- ongoing consideration of public comments
- potential updates to traffic forecasts as revised regularly by the Maricopa Association of Governments
- potential updates regarding updated census data
- regularly updated cost estimates for construction, right-of-way acquisition, relocation and mitigation

Environmental Justice

Even with these factors possibly affecting findings, the study team anticipates effects would be equal among the alternatives and, consequently, impacts would be roughly comparable. This assumption would be confirmed if, and when, such changes were to occur.

As a member of the Citizens Advisory Team, how can you review the entire technical report?

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Social Conditions

Why study social conditions in the Environmental Impact Statement (EIS)?

Phoenix has grown from a small agricultural town to a major metropolitan city over the last 100 years. Its rapid growth is expected to continue well into the future. With this growth, communities and their neighborhoods are created and evolve. Patterns of life then develop within these communities, which contribute to a sense of place for its residents. Issues such as mobility, continuity, character, inclusion and maintenance of a sense of place become important aspects to residents in those communities.

Construction and operation of a major transportation facility like the proposed South Mountain Freeway could alter social conditions important to communities' residents. Environmental planners analyze potential impacts on communities when the construction and operation of a freeway like the proposed South Mountain Freeway could result in consequences both beneficial and adverse to those aspects important to communities, neighborhoods and their residents.

Often, this type of analysis is subjective because it may be influenced by personal preferences from the person conducting the research. It involves an attempt to identify and evaluate individuals' behaviors in a community and the characteristics that make the community unique. Studying social conditions of communities is challenging because communities, particularly those in the Phoenix metropolitan area, change rapidly. The communities of today may look very different from those 25 years in the future.

What are the social conditions in the Study Area?

Overall, the social conditions in the Study Area can best be described as dynamic. The southwestern area of Phoenix is one of the fastest growing areas in the region. Consequently, those community characteristics important to residents (i.e., mobility, continuity, character, inclusion and sense of place) are continually changing. The character of the communities as they are today will most likely change dramatically over the course of the next 25 years. For example, 29 percent of the land in the Western Section of the Study Area is currently agricultural. An examination of what is regulated through local zoning ordinances, however, shows that only 9 percent is planned for future agricultural use. The Western Section of the Study Area, has been transitioning from agricultural-based communities to more contemporary residential communities characterized by relatively large homes situated on small lots.

Throughout the Study Area, communities maintain distinct characteristics:

- The City of Tolleson, approximately 10 miles west of downtown Phoenix, was founded in 1912. The city is unique because it is only about 6 square miles—much smaller than most other incorporated cities in the Study Area. With a population of approximately 5,500 individuals, Tolleson has a distinct downtown area and maintains a family-oriented small-town atmosphere.

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- Laveen Village, located within the city of Phoenix between the South Mountains and the Salt River, has an identity intimately linked to its agricultural heritage. First homesteaded in the late nineteenth century, the area is still valued by farmers, equestrians and those looking for mountain access. Cotton and alfalfa fields bordered by canals and county roads contribute to Laveen's persisting rural character. West of Laveen is the Gila River Indian Community (GRIC), characterized by open space and views of the Sierra Estrella.

  The combination of Phoenix's most recent rapid growth to the southwest and Laveen's proximity to central Phoenix has triggered substantial local development pressures. The village contains largely undeveloped and agricultural property within a 10- or 20-minute commute to Interstate 10 (I-10) and downtown Phoenix. A planned village core, in the vicinity of 59th Avenue and Dobbins Road, will provide a blend of employment, commercial and recreational uses and will concentrate community activities. Current planning seeks to protect Laveen's rural character in the face of strong development pressures over the coming decades.
- The Santa Maria community is an 80-acre unincorporated county island. Established in the early 1900s, the community sits on a slightly raised ridge, which was unsuitable for farming when the community was established, but was ideal for residences. The original homestead was established in 1916 under authority of the Homestead Act of 1862. In the early 1940s, Mexican immigrants working on farms in the area established a fairly substantial makeshift tent community on the land. In 1944, the property owner conducted a land survey so that this property could be formally subdivided into 62 parcels for the immigrants to purchase. In 1945, Santa Maria was legitimately established through resultant land purchases.

  From 1945 to today, the original Santa Maria townsite has thrived as a rural Hispanic community. Many of the original founding families maintain a strong community presence. The original 62 parcels have now been further subdivided into 137 parcels. A Roman Catholic mission church was built in the community in 1973 as part of the Cashion Parish. Today, the community retains a strong sense of its rural character, with its collage of buildings predominantly made using available resources, narrow streets built at ground level (no gutters or sidewalks) and aboveground utilities.
- The Dusty Lane community is an isolated residential area on the south side of Phoenix South Mountain Park/Preserve and is accessible by Dusty Lane. The area is bounded by the GRIC to the south and the park/preserve to the east and north. The mountain ridges create a sense of separation from the rest of Phoenix. Single-family dwellings and manufactured homes are scattered along mostly unpaved roads, giving the area a strong rural feel.
- Ahwatukee Foothills Village is bounded by I-10 to the east, the South Mountains to the north and the GRIC to the west and south. (Pecos Road—the 1988-approved alignment for the proposed South Mountain Freeway is the southernmost boundary.) Many people—residents and nonresidents alike—have characterized the area as one large cul-de-sac. Unlike portions of the Western Section of the Study Area, much of Ahwatukee is developed; vacant, undeveloped land is relatively rare. With its numerous contemporary, master-planned communities characterized by desert landscaping, golf

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courses and lakes, Ahwatukee is distinct in the Study Area. The adjacent Phoenix South Mountain Park/Preserve provides opportunities for hiking, biking and jogging. The lack of commercial development, the more recently developed master-planned residential communities and separation provided by the Phoenix South Mountain Park/Preserve and the GRIC define the village's modern and architecturally unified character.

What kind of impacts could occur from construction?

- Visual and noise intrusions could alter current neighborhood character.
- Existing neighborhoods could be temporarily divided and internal street systems disrupted. Local transportation patterns could be altered.
- Portions of neighborhoods and/or communities with distinct character could be temporarily isolated.
- Access to public facilities could be temporarily altered.
- Residences, businesses and public facilities could be displaced and possibly relocated to some other geographic area.
- Access to public facilities and businesses could be temporarily altered because of construction activities.
- Temporary detours may affect police, fire and medical emergency travel routes and response times.

How do the alternatives differ in construction-related impacts?

Any action alternative implemented would affect the character and cohesion of adjacent communities and distinct portions of the overall Study Area. Each alignment would affect different neighborhoods, but all would have similar types of impacts on social conditions.

One form of social impact would be displacement of residences and businesses that would require relocation. Potential displacements, by action alternative, are shown on the following page.

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Potential Displacements[a]

Alternative/ Option	Businesses[b]	Residential					Community Facilities[f]
		Single-family	Lots[c]	MH[d]	MF[e]	Total	
W55	119	45	—[g]	3	—	48	0
W71	10	162	543	3	—	708	1
W101 and Options	3–6[h]	168–193	53–323	5–6	—	228–522	0-1
E1	0	283	29	4	1	317	1

Source: Aerial photography flown in 2006; field inventories: September 2003, January and October 2005 and April 2006

[a] Displacements were estimated through use of aerial photography, flown in 2006, supplemented by field observations during September 2003, January and October 2005 and April 2006. Estimated displacement numbers may change because the aerial photography, fieldwork and design are continually updated and revised.

[b] includes businesses whose buildings would be directly and adversely affected by implementation of the action alternative and option; does not include businesses whose parking and outdoor storage areas would be adversely affected by an action alternative's construction and operation

[c] includes an estimate of the number of lots that have been platted but not built (streets have been built, construction has not begun)

[d] manufactured homes

[e] multifamily

[f] Schools were included in the community facility category, not businesses.

[g] not applicable

[h] W101 Alternative and options include ranges because of design options.

The W55 Alternative would cause the most business displacements, while the W101 Alternative would cause the most residential displacements. The W71 and W101 Alternatives would affect platted lots in subdivisions currently under construction and, therefore, would cause additional residential displacements.

What kinds of freeway operational impacts (postconstruction) would occur?

For all action alternatives, increased road capacity from a new freeway would improve overall circulation and accessibility both in the Study Area and in the greater Phoenix metropolitan area.

The existing character of residential and agricultural areas could be affected by the presence of the freeway and associated visual and noise intrusions into nearby neighborhoods. In the Western Section, however, the largely transitional character from agricultural to residential has been underway for several years. Operation of the freeway, in fact, has long been planned through Laveen Village since the late 1980s. Operation of the South Mountain Freeway could accelerate the rate of the transition from agricultural to largely residential subdivisions.

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The E1 Alternative would not substantially alter the character of Ahwatukee Foothills Village. As mentioned, Ahwatukee is nearly fully developed. Because the freeway alignment would incorporate the existing four-lane Pecos Road, located at the southern border of the village, Ahwatukee's internal mobility, established sense of place, feeling of inclusion and internal continuity would not be altered. While the proposed South Mountain Freeway would introduce additional noise impacts along the southern edges of the village, this type of impact would not be new, considering I-10 borders the village to the east.

Another overall general impact would be that business and industrial property access could change, particularly on a potential alignment that would bisect large, existing developed properties.

How do the alternatives differ in operational-related impacts?

Any of the action alternatives, when operational, generally would have similar types and levels of impacts on social conditions. Differences among the action alternatives have been described in preceding paragraphs.

What if the project were not constructed?

No direct impacts on community character and cohesiveness of existing or currently developing neighborhoods and commercial/industrial areas would occur as a result of selection of the No-Action Alternative. However, increasing congestion on the local street network would be expected, especially in the most rapidly urbanizing portions of the Study Area, if a controlled-access, high-speed travel option is not available to area residents, businesses and visitors. Lack of such an option could lead to increased travel times and inefficiencies in movement of people and goods in and across the area. It should also be noted that major portions of the Study Area are currently changing in character due to population growth and land development activity.

Are there any specific and/or unique impacts from implementation of any of the action alternatives?

For a project the magnitude of the proposed South Mountain Freeway, no specific and/or unique impacts are anticipated from implementation of any of the action alternatives. However, the ability to complete the planned and approved Regional Freeway System (RFS) is being outpaced by Valley growth. Continued growth will lead to substantial congestion on the local arterial street network as well as on the RFS. Also, without the proposed South Mountain Freeway, the RFS would not operate as intended.

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What could the Arizona Department of Transportation (ADOT) do to reduce construction impacts?

ADOT would look at a number of ways to avoid or reduce construction-related impacts. The following are examples of some of the measures that could be used.

- maintain access to businesses, neighborhoods and public facilities during construction
- consider timing of construction activities to minimize social impacts
- coordinate with local jurisdictions to minimize impacts to emergency medical services and fire and police response times due to construction detours

What could ADOT do to reduce social impacts once the freeway were operational?

ADOT would look at ways to avoid or reduce operation-related impacts. The following are examples of some of the measures ADOT could undertake:

- use noise barriers and landscaping to reduce noise and visual intrusions
- maintain access to public facilities, neighborhoods and commercial areas through grade separations and planned interchanges
- coordinate with local jurisdictions to address and correct impacts on internal road networks
- coordinate with all appropriate emergency services and utility companies to ensure that emergency and utility services are maintained to all service areas

Measures will be presented in the Draft EIS and, if an action alternative is the selected alternative, would be finalized during the final design process.

Are the conclusions presented in this summary final?

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- refinement in design features through the design process
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- ongoing communications with the GRIC regarding granting permission to study action alternatives on GRIC land
- ongoing consideration of public comments

Social Conditions

- potential updates to traffic forecasts as regularly revised by the Maricopa Association of Governments
- potential changes regarding updated census data
- regularly updated cost estimates for construction, right-of-way acquisition, relocation and mitigation

Even with these factors possibly affecting findings, the study team anticipates effects would be equal among the alternatives and, consequently, impacts would be roughly comparable. This assumption would be confirmed if, and when, such changes were to occur.

As a member of the Citizens Advisory Team, how can you review the entire technical report?

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Noise

Why study noise in the Environmental Impact Statement (EIS)?

For the purposes of this proposed project, noise is defined as unwanted or excessive sound. In many ways noise is undesirable, but it is a real by-product of today's way of life. Noise can be intrusive, interfering with sleep, work or recreation. Noise, in today's society, comes from many sources; a vacuum cleaner, for example, can disrupt a family member trying to read a book. Transportation noise is perhaps the most pervasive and difficult source to avoid in society today. Noise from airplanes flying overhead, from trains passing by, from motorized boats on a lake and cars and trucks traveling on the nation's roads and highways has become a daily part of our lives. Of these, traffic noise is the major contributor to overall transportation noise.

Therefore, construction and operation of a freeway like the proposed South Mountain Freeway would introduce a major noise source into an area where such noise may not have existed in the past. The proposed freeway would pass by residences, schools, parks, churches and other land uses sensitive to traffic noise. The study team, using federal and state guidance, analyzed how the proposed South Mountain Freeway would increase noise levels in adjacent areas. For areas qualifying for protection from the expected noise, the Arizona Department of Transportation (ADOT) and Federal Highway Administration (FHWA) will propose ways to reduce those levels to legally acceptable levels.

What kind of impacts would occur from construction?

Bulldozers, graders, scrapers, dump trucks, cranes and other heavy construction equipment operating at or around the same time can generate substantial noise in adjacent areas. The South Mountain Freeway would likely be constructed in phases with various segments of the freeway constructed sequentially. So construction and the related noise for one segment would only occur until the segment was completed. Then a new segment of the freeway would undergo construction, and so on until the entire freeway was constructed.

How do the action alternatives differ in construction-related impacts?

For any of the action alternatives being considered for the South Mountain Freeway, construction techniques and construction sequencing and durations would be relatively the same. Therefore, there would be no distinctive differences in how the project would be constructed. The main difference would be the location of construction noise in the Western Section of the Study Area, which would depend on which of the three alignments were eventually selected for implementation, if an action alternative were selected.

What kinds of freeway operational impacts (postconstruction) would occur?

Once the proposed freeway was completed and open to traffic, it is anticipated that residents near a freeway may experience undesirable noise levels. Through use of the industry-standard noise model, the threshold (with some exceptions) for residential areas is 64 decibels (similar to the noise produced by an operating washer/dryer or a vacuum cleaner). Residential areas with projected noise levels at or above 64 decibels are considered affected and potentially qualify for noise mitigation.

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The study team monitored 44 locations along the proposed freeway alignments to determine existing noise levels. These ranged from 44 to 64 decibels. To determine likely noise level impacts from implementation of the proposed South Mountain Freeway, 139 locations were selected for modeling to determine noise levels once the proposed freeway was completed. The predicted noise levels ranged from 61 to 79 decibels at residential areas near the freeway.

How do the action alternatives differ in operational impacts?

For any of the action alternatives being considered for the South Mountain Freeway, noise level impacts on residential and other sensitive properties would be relatively the same. Therefore, the alternatives would have no distinctive differences regarding traffic noise level impacts. However, the main difference would be that different residences and other sensitive uses would be affected by freeway noise in the Western Section of the Study Area, depending on which of the three action alternatives eventually were selected for implementation, if an action alternative were chosen.

What if the project were not constructed?

Noise level impacts from the No-Action Alternative would be caused by vehicle traffic along arterial and other area surface streets. Based on projected growth throughout the region, traffic congestion would increase under this alternative, which would reduce travel speeds and thereby reduce traffic noise levels. The No-Action Alternative would, thus, result in lower noise levels at the 139 receiver locations than would any of the action alternatives, but would cause increased noise levels at other locations, such as along arterial streets.

Are there any specific and/or unique impacts from implementation of any of the action alternatives?

For a project the magnitude of the proposed South Mountain Freeway, there are no known unique noise level impacts that would occur from implementation of any of the action alternatives. However, as currently proposed, the South Mountain Freeway would pass through the far southern portion of Phoenix South Mountain Park/Preserve. The freeway in this location would introduce freeway noise into a small portion of a park known for its scenic, natural and passive setting.

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What could ADOT do to reduce or avoid impacts?

ADOT could reduce or avoid noise level impacts by:

- avoiding sensitive noise receivers
- reducing speed limits on the proposed freeway
- constructing noise barriers
- where feasible, constructing the freeway below ground level (would likely still require noise barriers)

ADOT and FHWA would evaluate these types of measures to determine the most appropriate ways to reduce noise impacts on surrounding communities.

What could ADOT do to reduce construction impacts?

To minimize noise levels on surrounding areas caused by construction activities, ADOT or its contractor could take the following measures:

- where feasible, construct noise barriers to limit construction noise
- ensure all exhaust systems on construction equipment would be in good working order (properly designed engine enclosures and intake silencers would be used where appropriate)
- ensure construction equipment would meet new product emission standards
- locate stationary, noise-generating equipment as far away from residential areas as possible
- notify the public of the scheduled construction activity

What could ADOT do to reduce noise impacts once the freeway were operational?

ADOT has a mandate to reduce noise levels to acceptable levels defined in federal and state regulations and policies. Preliminary mitigation measures will be presented in the Draft EIS. If an action alternative were to be the selected alternative, the measures would be specified in the Record of Decision and implemented, as appropriate, as part of project development in right-of-way acquisition and in construction, operation and maintenance phases of that selected alternative. Initial noise barrier installation would be designed to reduce noise levels to the range of 56 to 68 decibels, although most receivers would have noise levels ranging from 60 to 63 decibels. ADOT would respond to public complaints regarding perceived excessively high traffic noise levels and monitor and evaluate any need for additional noise mitigation. Actions that could be taken include installing additional noise barriers or raising the height of existing barriers. If monitored noise levels were found to be acceptable, ADOT would take no action.

Noise

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